

FIGURE 1

	M	A	A	A	A	G	N	R	A	S	S	S	G	F	P	G	A	R	18
gagaaa	ATG	GCG	GCG	GCG	GCG	GGG	AAT	CGC	GCC	TCG	TCG	TCG	GGA	TTC	CCG	GGC	GCC	AGG	60
	A	T	S	P	E	A	G	G	G	G	A	L	K	A	S	S	A	P	38
GCT	ACG	AGC	CCT	GAG	GCA	GGC	GGC	GGC	GGA	GGA	GCC	CTC	AAG	GCG	AGC	AGC	GCG	CCC	120
	A	A	A	G	L	L	R	E	A	G	S	G	G	R	E	R	A	D	58
GCT	GCC	GCG	GGA	CTG	CTG	CGG	GAG	GCG	GGC	AGC	GGG	GGC	CGC	GAG	CGG	GCG	GAC	TGG	180
	R	R	Q	L	R	K	V	R	S	V	E	L	D	Q	L	P	E	Q	78
CGG	CGG	CAG	CTG	CGC	AAA	GTG	CGG	AGT	GTG	GAG	CTG	GAC	CAG	CTG	CCT	GAG	CAG	CCG	240
	F	L	A	A	S	P	P	A	S	S	T	S	P	S	P	E	P	A	98
TTC	CTT	GCC	GCC	TCA	CCG	CCG	GCC	TCC	TCG	ACT	TCC	CCG	TCG	CCG	GAG	CCC	GCG	GAC	300
	A	G	S	G	T	G	F	Q	P	V	A	V	P	P	P	H	G	A	118
GCG	GGG	AGT	GGG	ACC	GGC	TTC	CAG	CCT	GTG	GCG	GTG	CCG	CCG	CCC	CAC	GGA	GCC	GCG	360
	R	G	G	A	H	L	T	E	S	V	A	A	P	D	S	G	A	S	138
CGC	GGC	GGC	GCC	CAC	CTT	ACC	GAG	TCG	GTG	GCG	GCG	CCG	GAC	AGC	GGC	GCC	TCG	AGT	420
	A	A	A	E	P	G	E	K	R	A	P	A	A	E	P	S	P	A	158
GCA	GCG	GCC	GAG	CCC	GGG	GAG	AAG	CGG	GCG	CCC	GCC	GCC	GAG	CCG	TCT	CCT	GCA	GCG	480
	P	A	G	R	E	M	E	N	K	E	T	L	K	G	L	H	K	M	178
CCC	GCC	GGT	CGT	GAG	ATG	GAG	AAT	AAA	GAA	ACT	CTC	AAA	GGG	TTG	CAC	AAG	ATG	GAT	540
	R	P	E	E	R	M	I	R	E	K	L	K	A	T	C	M	P	A	198
CGT	CCA	GAG	GAA	CGA	ATG	ATC	AGG	GAG	AAA	CTG	AAG	GCA	ACC	TGT	ATG	CCA	GCC	TGG	600
	H	E	W	L	E	R	R	N	R	R	G	P	V	V	V	K	P	I	218
CAC	GAA	TGG	TTG	GAA	AGG	AGA	AAT	AGG	CGA	GGG	CCT	GTG	GTG	GTA	AAA	CCA	ATC	CCA	660
	K	G	D	G	S	E	M	N	H	L	A	A	E	S	P	G	E	V	238
AAA	GGA	GAT	GGA	TCT	GAA	ATG	AAT	CAC	TTA	GCA	GCT	GAG	TCT	CCA	GGA	GAG	GTC	CAG	720
	S	A	A	S	P	A	S	K	G	R	R	S	P	S	P	G	N	S	258
AGT	GCG	GCT	TCA	CCA	GCT	TCC	AAA	GGC	CGA	CGC	AGT	CCT	TCT	CCT	GGC	AAC	TCC	CCA	780
	G	R	T	V	K	S	E	S	P	G	V	R	R	K	R	V	S	P	278
GGT	CGC	ACA	GTG	AAA	TCA	GAA	TCT	CCA	GGA	GTA	AGG	AGA	AAA	AGA	GTT	TCC	CCA	GTG	840
	F	Q	S	G	R	I	T	P	P	R	R	A	P	S	P	D	G	F	298
TTT	CAG	AGT	GGC	AGA	ATC	ACA	CCA	CCC	CGA	AGA	GCC	CCT	TCA	CCA	GAT	GGC	TTC	TCA	900
	Y	S	P	E	E	T	N	R	R	V	N	K	V	M	R	A	R	L	318
TAT	AGC	CCT	GAG	GAA	ACA	AAC	CGC	CGT	GTT	AAC	AAA	GTG	ATG	CGG	GCC	AGA	CTG	TAC	960
	L	Q	Q	I	G	P	N	S	F	L	I	G	G	D	S	P	D	N	338
CTG	CAG	CAG	ATA	GGG	CCT	AAC	TCT	TTC	CTG	ATT	GGA	GGA	GAC	AGC	CCA	GAC	AAT	AAA	1020
	R	V	F	I	G	P	Q	N	C	S	C	A	R	G	T	F	C	I	358
CGG	GTG	TTT	ATT	GGG	CCT	CAG	AAC	TGC	AGC	TGT	GCA	CGT	GGA	ACA	TTC	TGT	ATT	CAT	1080
	L	F	V	M	L	R	V	F	Q	L	E	P	S	D	P	M	L	W	378
CTA	TTT	GTG	ATG	CTC	CGG	GTG	TTT	CAA	CTA	GAA	CCT	TCA	GAC	CCA	ATG	TTA	TGG	AGA	1140
	T	L	K	N	F	E	V	E	S	L	F	Q	K	Y	H	S	R	R	398
ACT	TTA	AAG	AAT	TTT	GAG	GTT	GAG	AGT	TTG	TTC	CAG	AAA	TAT	CAC	AGT	AGG	CGT	AGC	1200
	R	I	K	A	P	S	R	N	T	I	Q	K	F	V	S	R	M	S	418
AGG	ATC	AAA	GCT	CCA	TCT	CGT	AAC	ACC	ATC	CAG	AAG	TTT	GTT	TCA	CGC	ATG	TCA	AAT	1260
	H	T	L	S	S	S	S	T	S	T	S	S	S	E	N	S	I	K	438
CAT	ACA	TTG	TCA	TCA	TCT	AGT	ACT	TCT	ACG	TCT	AGT	TCA	GAA	AAC	AGC	ATA	AAG	GAT	1320
	E	E	Q	M	C	P	I	C	L	L	G	M	L	D	E	E	S	L	458
GAG	GAA	CAG	ATG	TGT	CCT	ATT	TGC	TTG	TTG	GGC	ATG	CTT	GAT	GAA	GAA	AGT	CTT	ACA	1380

FIGURE 1, cont'd

C	E	D	G	C	R	N	K	L	H	H	H	C	M	S	I	W	A	E	E	478
TGT	GAA	GAC	GGC	TGC	AGG	AAC	AAG	CTG	CAC	CAC	CAC	TGC	ATG	TCA	ATT	TGG	GCA	GAA	GAG	1440
C	R	R	N	R	E	P	L	I	C	P	L	C	R	S	K	W	R	S	H	498
TGT	AGA	AGA	AAT	AGA	GAA	CCT	TTA	ATA	TGT	CCC	CTT	TGT	AGA	TCT	AAG	TGG	AGA	TCT	CAT	1500
D	F	Y	S	H	E	L	S	S	P	V	D	S	P	S	S	L	R	A	A	518
GAT	TTC	TAC	AGC	CAC	GAG	TTG	TCA	AGT	CCT	GTG	GAT	TCC	CCT	TCT	TCC	CTC	AGA	GCT	GCA	1560
Q	Q	Q	T	V	Q	Q	Q	P	L	A	G	S	R	R	N	Q	E	S	N	538
CAG	CAG	CAA	ACC	GTA	CAG	CAG	CAG	CCT	TTG	GCT	GGA	TCA	CGA	AGG	AAT	CAA	GAG	AGC	AAT	1620
F	N	L	T	H	Y	G	T	Q	Q	I	P	P	A	Y	K	D	L	A	E	558
TTT	AAC	CTT	ACT	CAT	TAT	GGA	ACT	CAG	CAA	ATC	CCT	CCT	GCT	TAC	AAA	GAT	TTA	GCT	GAG	1680
P	W	I	Q	V	F	G	M	E	L	V	G	C	L	F	S	R	N	W	N	578
CCA	TGG	ATT	CAG	GTG	TTT	GGA	ATG	GAA	CTC	GTT	GGC	TGC	TTA	TTT	TCT	AGA	AAC	TGG	AAT	1740
V	R	E	M	A	L	R	R	L	S	H	D	V	S	G	A	L	L	L	A	598
GTG	AGA	GAG	ATG	GCC	CTC	AGG	CGT	CTT	TCC	CAT	GAT	GTG	AGT	GGG	GCC	CTG	CTG	TTG	GCA	1800
N	G	E	S	T	G	N	S	G	G	S	S	G	S	S	P	S	G	G	A	618
AAT	GGG	GAG	AGC	ACT	GGA	AAT	TCT	GGG	GGC	AGC	AGT	GGA	AGC	AGC	CCG	AGT	GGG	GGA	GCC	1860
T	S	G	S	S	Q	T	S	I	S	G	D	V	V	E	A	C	C	S	V	638
ACC	AGT	GGG	TCT	TCC	CAG	ACC	AGT	ATC	TCA	GGA	GAT	GTG	GTG	GAG	GCA	TGC	TGC	AGC	GTT	1920
L	S	M	V	C	A	D	P	V	Y	K	V	Y	V	A	A	L	K	T	L	658
CTG	TCA	ATG	GTC	TGT	GCT	GAC	CCT	GTC	TAC	AAA	GTG	TAC	GTT	GCT	GCT	TTA	AAA	ACA	TTG	1980
R	A	M	L	V	Y	T	P	C	H	S	L	A	E	R	I	K	L	Q	R	678
AGA	GCC	ATG	CTG	GTA	TAT	ACT	CCT	TGC	CAC	AGT	TTA	GCG	GAA	AGA	ATC	AAA	CTT	CAG	AGA	2040
L	L	Q	P	V	V	D	T	I	L	V	K	C	A	D	A	N	S	R	T	698
CCTT	CTC	CAG	CCA	GTT	GTA	GAC	ACC	ATC	CTA	GTC	AAA	TGT	GCA	GAT	GCC	AAT	AGC	CGC	ACA	2100
S	Q	L	S	I	S	T	L	L	E	L	C	K	G	Q	A	G	E	L	A	718
AGT	CAG	CTG	TCC	ATA	TCA	ACA	CTG	TTG	GAA	CTG	TGC	AAA	GGC	CAA	GCA	GGA	GAG	TTG	GCA	2160
V	G	R	E	I	L	K	A	G	S	I	G	I	G	G	V	D	Y	V	L	738
GTT	GGC	AGA	GAA	ATA	CTA	AAA	GCT	GGA	TCC	ATT	GGT	ATT	GGT	GGT	GTT	GAT	TAT	GTC	TTA	2220
N	C	I	L	G	N	Q	T	E	S	N	N	W	Q	E	L	L	G	R	L	758
AAT	TGT	ATT	CTT	GGA	AAC	CAA	ACT	GAA	TCA	AAC	AAT	TGG	CAA	GAA	CTT	CTT	GGC	CGC	CTT	2280
C	L	I	D	R	L	L	L	E	F	P	A	E	F	Y	P	H	I	V	S	778
TGT	CTT	ATA	GAT	AGA	CTG	TTG	TTG	GAA	TTT	CCT	GCT	GAA	TTT	TAT	CCT	CAT	ATT	GTC	AGT	2340
T	D	V	S	Q	A	E	P	V	E	I	R	Y	K	K	L	L	S	L	L	798
ACT	GAT	GTT	TCA	CAA	GCT	GAG	CCT	GTT	GAA	ATC	AGG	TAT	AAG	AAG	CTG	CTG	TCC	CTC	TTA	2400
T	F	A	L	Q	S	I	D	N	S	H	S	M	V	G	K	L	S	R	R	818
ACC	TTT	GCT	TTG	CAG	TCC	ATT	GAT	AAT	TCC	CAC	TCA	ATG	GTT	GGC	AAA	CTT	TCC	AGA	AGG	2460
I	Y	L	S	S	A	R	M	V	T	T	V	P	H	V	F	S	K	L	L	838
ATC	TAC	TTG	AGT	TCT	GCA	AGA	ATG	GTT	ACT	ACA	GTA	CCC	CAT	GTG	TTT	TCA	AAA	CTG	TTA	2520
E	M	L	S	V	S	S	S	T	H	F	T	R	M	R	R	R	L	M	A	858
GAA	ATG	CTG	AGT	GTT	TCC	AGT	TCC	ACT	CAC	TTC	ACC	AGG	ATG	CGT	CGC	CGT	TTG	ATG	GCT	2580
I	A	D	E	V	E	I	A	E	A	I	Q	L	G	V	E	D	T	L	D	878
ATT	GCA	GAT	GAG	GTG	GAA	ATT	GCC	GAA	GCC	ATC	CAG	TTG	GGC	GTA	GAA	GAC	ACT	TTG	GAT	2640
G	Q	Q	D	S	F	L	Q	A	S	V	P	N	N	Y	L	E	T	T	E	898
GGT	CAA	CAG	GAC	AGC	TTC	TTG	CAG	GCA	TCT	GTT	CCC	AAC	AAC	TAT	CTG	GAA	ACC	ACA	GAG	2700
N	S	S	P	E	C	T	V	H	L	E	K	T	G	K	G	L	C	A	T	918
AAC	AGT	TCC	CCT	GAG	TGC	ACA	GTC	CAT	TTA	GAG	AAA	ACT	GGA	AAA	GGA	TTA	TGT	GCT	ACA	2760

FIGURE 1, cont'd

K	L	S	A	S	S	E	D	I	S	E	R	L	A	S	I	S	V	G	P	938
AAA	TTG	AGT	GCC	AGT	TCA	GAG	GAC	ATT	TCT	GAG	AGA	CTG	GCC	AGC	ATT	TCA	GTA	GGA	CCT	2820
S	S	S	T	T	T	T	T	T	T	T	E	Q	P	K	P	M	V	Q	T	958
TCT	AGT	TCA	ACA	ACA	ACA	ACA	ACA	ACA	ACA	ACA	GAG	CAA	CCA	AAG	CCA	ATG	GTT	CAA	ACA	2880
K	G	R	P	H	S	Q	C	L	N	S	S	P	L	S	H	H	S	Q	L	978
AAA	GGC	AGA	CCC	CAC	AGT	CAG	TGT	TTG	AAC	TCC	TCT	CCT	TTA	TCT	CAT	CAT	TCC	CAA	TTA	2940
M	F	P	A	L	S	T	P	S	S	S	T	P	S	V	P	A	G	T	A	998
ATG	TTT	CCA	GCC	TTG	TCA	ACC	CCT	TCT	TCT	TCT	ACC	CCA	TCT	GTA	CCA	GCT	GGC	ACT	GCA	3000
T	D	V	S	K	H	R	L	Q	G	F	I	P	C	R	I	P	S	A	S	1018
ACA	GAT	GTC	TCT	AAG	CAT	AGA	CTT	CAG	GGA	TTC	ATT	CCC	TGC	AGA	ATA	CCT	TCT	GCA	TCT	3060
P	Q	T	Q	R	K	F	S	L	Q	F	H	R	N	C	P	E	N	K	D	1038
CCT	CAA	ACA	CAG	CGC	AAG	TTT	TCT	CTA	CAA	TTC	CAC	AGA	AAC	TGT	CCT	GAA	AAC	AAA	GAC	3120
S	D	K	L	S	P	V	F	T	Q	S	R	P	L	P	S	S	N	I	H	1058
TCA	GAT	AAA	CTT	TCC	CCA	GTC	TTT	ACT	CAG	TCA	AGA	CCC	TTG	CCC	TCC	AGT	AAC	ATA	CAC	3180
R	P	K	P	S	R	P	T	P	G	N	T	S	K	Q	G	D	P	S	K	1078
AGG	CCA	AAG	CCA	TCT	AGA	CCT	ACC	CCA	GGT	AAT	ACA	AGT	AAA	CAG	GGA	GAT	CCC	TCA	AAA	3240
N	S	M	T	L	D	L	N	S	S	S	K	C	D	D	S	F	G	C	S	1098
AAT	AGC	ATG	ACA	CTT	GAT	CTG	AAC	AGT	AGT	TCC	AAA	TGT	GAT	GAC	AGC	TTT	GGC	TGT	AGC	3300
S	N	S	S	N	A	V	I	P	S	D	E	T	V	F	T	P	V	E	E	1118
AGC	AAT	AGT	AGT	AAT	GCT	GTT	ATA	CCC	AGT	GAC	GAG	ACA	GTG	TTC	ACC	CCA	GTA	GAG	GAG	3360
K	C	R	L	D	V	N	T	E	L	N	S	S	I	E	D	L	L	E	A	1138
AAA	TGC	AGA	TTA	GAT	GTC	AAT	ACA	GAG	CTC	AAC	TCC	AGT	ATT	GAG	GAC	CTT	CTT	GAA	GCA	3420
S	M	P	S	S	D	T	T	V	T	F	K	S	E	V	A	V	L	S	P	1158
TCT	ATG	CCT	TCA	AGT	GAT	ACA	ACA	GTA	ACT	TTT	AAG	TCA	GAA	GTT	GCT	GTC	CTG	TCT	CCT	3480
E	K	A	E	N	D	D	T	Y	K	D	D	V	N	H	N	Q	K	C	K	1178
GAA	AAG	GCT	GAA	AAT	GAT	GAT	ACC	TAC	AAA	GAT	GAT	GTG	AAT	CAT	AAT	CAA	AAG	TGC	AAA	3540
E	K	M	E	A	E	E	E	E	A	L	A	I	A	M	A	M	S	A	S	1198
GAG	AAG	ATG	GAA	GCT	GAA	GAA	GAA	GAA	GCT	TTA	GCA	ATT	GCC	ATG	GCA	ATG	TCA	GCG	TCT	3600
Q	D	A	L	P	I	V	P	Q	L	Q	V	E	N	G	E	D	I	I	I	1218
CAG	GAT	GCC	CTC	CCC	ATA	GTT	CCT	CAG	CTG	CAG	GTT	GAA	AAT	GGA	GAA	GAT	ATC	ATC	ATT	3660
I	Q	Q	D	T	P	E	T	L	P	G	H	T	K	A	K	Q	P	Y	R	1238
ATT	CAA	CAG	GAT	ACA	CCA	GAG	ACT	CTA	CCA	GGA	CAT	ACC	AAA	GCA	AAA	CAA	CCG	TAT	AGA	3720
E	D	T	E	W	L	K	G	Q	Q	I	G	L	G	A	F	S	S	C	Y	1258
GAA	GAC	ACT	GAA	TGG	CTG	AAA	GGT	CAA	CAG	ATA	GGC	CTT	GGA	GCA	TTT	TCT	TCT	TGT	TAT	3780
Q	A	Q	D	V	G	T	G	T	L	M	A	V	K	Q	V	T	Y	V	R	1278
CAG	GCT	CAA	GAT	GTG	GGA	ACT	GGA	ACT	TTA	ATG	GCT	GTT	AAA	CAG	GTG	ACT	TAT	GTC	AGA	3840
N	T	S	S	E	Q	E	E	V	V	E	A	L	R	E	E	I	R	M	M	1298
AAC	ACA	TCT	TCT	GAG	CAA	GAA	GAA	GTA	GTA	GAA	GCA	CTA	AGA	GAA	GAG	ATA	AGA	ATG	ATG	3900
S	H	L	N	H	P	N	I	I	R	M	L	G	A	T	C	E	K	S	N	1318
AGC	CAT	CTG	AAT	CAT	CCA	AAC	ATC	ATT	AGG	ATG	TTG	GGA	GCC	ACG	TGT	GAG	AAG	AGC	AAT	3960
Y	N	L	F	I	E	W	M	A	G	G	S	V	A	H	L	L	S	K	Y	1338
TAC	AAT	CTC	TTC	ATT	GAA	TGG	ATG	GCA	GGG	GGA	TCG	GTG	GCT	CAT	TTG	CTG	AGT	AAA	TAT	4020
G	A	F	K	E	S	V	V	I	N	Y	T	E	Q	L	L	R	G	L	S	1358
GGA	GCC	TTC	AAA	GAA	TCA	GTA	GTT	ATT	AAC	TAC	ACT	GAA	CAG	TTA	CTC	CGT	GGC	CTT	TCG	4080
Y	L	H	E	N	Q	I	I	H	R	D	V	K	G	A	N	L	L	I	D	1378
TAT	CTC	CAT	GAA	AAC	CAA	ATC	ATT	CAC	AGA	GAT	GTC	AAA	GGT	GCC	AAT	TTG	CTA	ATT	GAC	4140

FIGURE 1, cont'd

S	T	G	Q	R	L	R	I	A	D	F	G	A	A	A	R	L	A	S	K	1398
AGC	ACT	GGT	CAG	AGA	CTA	AGA	ATT	GCA	GAT	TTT	GGA	GCT	GCA	GCC	AGG	TTG	GCA	TCA	AAA	4200
G	T	G	A	G	E	F	Q	G	Q	L	L	G	T	I	A	F	M	A	P	1418
GGA	ACT	GGT	GCA	GGA	GAG	TTT	CAG	GGA	CAA	TTA	CTG	GGG	ACA	ATT	GCA	TTT	ATG	GCA	CCT	4260
E	V	L	R	G	Q	Q	Y	G	R	S	C	D	V	W	S	V	G	C	A	1438
GAG	GTA	CTA	AGA	GGT	CAA	CAG	TAT	GGA	AGG	AGC	TGT	GAT	GTA	TGG	AGT	GTT	GGC	TGT	GCT	4320
I	I	E	M	A	C	A	K	P	P	W	N	A	E	K	H	S	N	H	L	1458
ATT	ATA	GAA	ATG	GCT	TGT	GCA	AAA	CCA	CCA	TGG	AAT	GCA	GAA	AAA	CAC	TCC	AAT	CAT	CTT	4380
A	L	I	F	K	I	A	S	A	T	T	A	P	S	I	P	S	H	L	S	1478
GCT	TTG	ATA	TTT	AAG	ATT	GCT	AGT	GCA	ACT	ACT	GCT	CCA	TCG	ATC	CCT	TCA	CAT	TTG	TCT	4440
P	G	L	R	D	V	A	L	R	C	L	E	L	Q	P	Q	D	R	P	P	1498
CCT	GGT	TTA	CGA	GAT	GTG	GCT	CTT	CGT	TGT	TTA	GAA	CTT	CAA	CCT	CAG	GAC	AGA	CCT	CCA	4500
S	R	E	L	L	K	H	P	V	F	R	T	T	W	*						1512
TCA	AGA	GAG	CTA	CTG	AAG	CAT	CCA	GTC	TTT	CGT	ACT	ACA	TGG	TAG	ccaattatgcagatcaa					4562

ctacagtagaaacaggatgctcaacaagagaaaaaaaacttgtggggaaccacattgatattctactggcca 4634
 tgatgccactgaacagctatgaacgaggccagtggggaacccttacctaagtatgtgattgacaaatcatga 4706
 tctgtacctaaagctcagtatgcaaaagcccaaactagtgcagaaactgtaaactgtgcctttcaaagaactg 4778
 gccctaggtgaacaggaaaaacaatgaagtttgcataactaaattgcagaagcataattttatttttttggag 4850
 cactttttcagcaatattagcgggtgaggggctcaggatctatttttaattttcaattattcttccatttca 4922
 tatagtgatcacaagcagggggttctgcaattccgttcaaattttttgtcactggctataaaaatcagtatct 4994
 gcctcttttaggtcagagtatgctatgagtagcaatacacatacatattttttaaagttgatacttctttat 5066
 gaccacagttgaccttttattttcttaaataccagggcagttgtggctcattgtgcattttactgttggccc 5138
 attcatttcgtttttggaaattatggttttgtattttcatgtttatttacattcatttttgtttattcaggg 5210
 aaagctgatcttttttttcaaaccacaaaaaaaaa 5245

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AF042838	-----I SPEAG-----ALKA SGAF--AAGLLREAGSGRERADARRQLRKVRVSLDQLPEQFLFLA--SPPASSTSPSPPEPA	78
MEKklhuman	MAAAGN RASSSGFPGF--I SPEAGCGCG--ALKA SGAPAA--AAGLLREAGSGRERADARRQLRKVRVSLDQLPEQFLFLA--SPPASSTSPSPPEPA	97
MEKklrat	MAAAGN RASSSGFPGFAAASPEAGCGCG--ALQSSGAPAG--GLLREIGSGRERADARRQLRKVRVSLDQLPEQFLFLA--SPPASSTSPSPPEPA	97
MEKklmouse	MAAAGN RASSSGFPGFAAASPEAGCGCG--ALQSSGAPAGAGLLREIGSGRERADARRQLRKVRVSLDQLPEQFLFLA--SPPASSTSPSPPEPA	102
AF042838	AAGSGTIGFQFV--V PPHGAAS FGAHTE SNAH DSGASSPA AERGEKRAPAAEP--FAAPAGREMNKETLKGHLKMDRFEERMIRENLAATQCPAANK	189
MEKklhuman	AAGSGTIGFQFV--V PPHGAAS FGAHTE SNAH DSGASSPA AERGEKRAPAAEP--FAAPAGREMNKETLKGHLKMDRFEERMIRENLAATQCPAANK	199
MEKklrat	AAACSGFQPAAGPPH--GAASGCG--FAELAARDSGH--SPAGAE-----I SAAAE--GREMNKETLKGHLKMDRFEERMIRENLAATQCPAANK	189
MEKklmouse	AAACSGFQPAAGPPH--GAASGCG--FAELAARDSGH--SPAGAE-----I SAAAE--GREMNKETLKGHLKMDRFEERMIRENLAATQCPAANK	194
AF042838	EWLERRNRGFWVWKPIFVKDGSEMA--LAADSGEIGVQASAG--PASKGRSSPSFG--SPSGFI--VKESGVRVRKRVSVFPFQSGRITPPRRAPSPDGFSPYSF	282
MEKklhuman	EWLERRNRGFWVWKPIFVKDGSEMA--LAADSGEIGVQASAG--PASKGRSSPSFG--SPSGFI--VKESGVRVRKRVSVFPFQSGRITPPRRAPSPDGFSPYSF	301
MEKklrat	EWLERRNRGFWVWKPIFVKDGSEMA--LAADSGEIGVQASAG--PASKGRSSPSFG--SPSGFI--VKESGVRVRKRVSVFPFQSGRITPPRRAPSPDGFSPYSF	291
MEKklmouse	EWLERRNRGFWVWKPIFVKDGSEMA--LAADSGEIGVQASAG--PASKGRSSPSFG--SPSGFI--VKESGVRVRKRVSVFPFQSGRITPPRRAPSPDGFSPYSF	296
AF042838	EDTSRRVAKV--RARLYLLQOIGRNSFLIGGSEDAKVRVFIGPQNC--HGTFCIHLLFVMLRVFQLEPSDMLARKTLKNFEVESLFQKYHSPRSSRIKAF	384
MEKklhuman	EDTSRRVAKV--RARLYLLQOIGRNSFLIGGSEDAKVRVFIGPQNC--HGTFCIHLLFVMLRVFQLEPSDMLARKTLKNFEVESLFQKYHSPRSSRIKAF	403
MEKklrat	EDTSRRVAKV--RARLYLLQOIGRNSFLIGGSEDAKVRVFIGPQNC--HGTFCIHLLFVMLRVFQLEPSDMLARKTLKNFEVESLFQKYHSPRSSRIKAF	393
MEKklmouse	EDTSRRVAKV--RARLYLLQOIGRNSFLIGGSEDAKVRVFIGPQNC--HGTFCIHLLFVMLRVFQLEPSDMLARKTLKNFEVESLFQKYHSPRSSRIKAF	398
AF042838	SRNTIQKFVSRVSNHILSSSSTSSSSNSTKDEEDQMCPICLLGLDEESLIVCEDGCRNKLHHOMSTVAECCRNRREPLICFLCRSK--RSHDFYSHEI	486
MEKklhuman	SRNTIQKFVSRVSNHILSSSSTSSSSNSTKDEEDQMCPICLLGLDEESLIVCEDGCRNKLHHOMSTVAECCRNRREPLICFLCRSK--RSHDFYSHEI	505
MEKklrat	SRNTIQKFVSRVSNHILSSSSTSSSSNSTKDEEDQMCPICLLGLDEESLIVCEDGCRNKLHHOMSTVAECCRNRREPLICFLCRSK--RSHDFYSHEI	495
MEKklmouse	SRNTIQKFVSRVSNHILSSSSTSSSSNSTKDEEDQMCPICLLGLDEESLIVCEDGCRNKLHHOMSTVAECCRNRREPLICFLCRSK--RSHDFYSHEI	500
AF042838	SSPVDSPSLRAAQQT--VQOQF--LAG--RRQBSNFMTHYGTQOIPPAYKDLAEPWIOVFGMELVGLFSRM--NVREVALRRLS--DVSGALLANGESTGS	587
MEKklhuman	SSPVDSPSLRAAQQT--VQOQF--LAG--RRQBSNFMTHYGTQOIPPAYKDLAEPWIOVFGMELVGLFSRM--NVREVALRRLS--DVSGALLANGESTGS	606
MEKklrat	SSPVDSPSLRAAQQT--VQOQF--LAG--RRQBSNFMTHYGTQOIPPAYKDLAEPWIOVFGMELVGLFSRM--NVREVALRRLS--DVSGALLANGESTGS	597
MEKklmouse	SSPVDSPSLRAAQQT--VQOQF--LAG--RRQBSNFMTHYGTQOIPPAYKDLAEPWIOVFGMELVGLFSRM--NVREVALRRLS--DVSGALLANGESTGS	602
AF042838	TSSSGSS--ISGG--TSSSSTSSSISGDEWACCVLSMVCADPVKVVVAALKTLRAMLVYTFCHSLAERIKLQRLLOPVWDTILVACADANSRQSLSISTILLF	689
MEKklhuman	TSSSGSS--ISGG--TSSSSTSSSISGDEWACCVLSMVCADPVKVVVAALKTLRAMLVYTFCHSLAERIKLQRLLOPVWDTILVACADANSRQSLSISTILLF	708
MEKklrat	TSSSGSS--ISGG--TSSSSTSSSISGDEWACCVLSMVCADPVKVVVAALKTLRAMLVYTFCHSLAERIKLQRLLOPVWDTILVACADANSRQSLSISTILLF	699
MEKklmouse	TSSSGSS--ISGG--TSSSSTSSSISGDEWACCVLSMVCADPVKVVVAALKTLRAMLVYTFCHSLAERIKLQRLLOPVWDTILVACADANSRQSLSISTILLF	704
AF042838	LCKQAGELAVGREITLKAGSIGGGVDVLA--CILGQ--TESNNQELLGRLCLIDRLLEFPFAEFYPHIVSTDVSOAEPVEIRYKLLSLITAFALQSTINDSHS	791
MEKklhuman	LCKQAGELAVGREITLKAGSIGGGVDVLA--CILGQ--TESNNQELLGRLCLIDRLLEFPFAEFYPHIVSTDVSOAEPVEIRYKLLSLITAFALQSTINDSHS	810
MEKklrat	LCKQAGELAVGREITLKAGSIGGGVDVLA--CILGQ--TESNNQELLGRLCLIDRLLEFPFAEFYPHIVSTDVSOAEPVEIRYKLLSLITAFALQSTINDSHS	801
MEKklmouse	LCKQAGELAVGREITLKAGSIGGGVDVLA--CILGQ--TESNNQELLGRLCLIDRLLEFPFAEFYPHIVSTDVSOAEPVEIRYKLLSLITAFALQSTINDSHS	806
AF042838	WGLSRRRYLSSARMVTVFHFVSKLEMLSS--STHETRRRRRLMADEVEIAEAIQGVEDITL--CQD--SFLQ--SUNYETTED--SSHEH--FEN	893
MEKklhuman	WGLSRRRYLSSARMVTVFHFVSKLEMLSS--STHETRRRRRLMADEVEIAEAIQGVEDITL--CQD--SFLQ--SUNYETTED--SSHEH--FEN	910
MEKklrat	WGLSRRRYLSSARMVTVFHFVSKLEMLSS--STHETRRRRRLMADEVEIAEAIQGVEDITL--CQD--SFLQ--SUNYETTED--SSHEH--FEN	897
MEKklmouse	WGLSRRRYLSSARMVTVFHFVSKLEMLSS--STHETRRRRRLMADEVEIAEAIQGVEDITL--CQD--SFLQ--SUNYETTED--SSHEH--FEN	902
AF042838	TEKGLCATKLASSEDISEFLRISVCHSSSTTTTTTTTTTEQPKHVOIKGRPHSQCLNSSPLSHSQLMFPALSTIPSSSTPSVPAGTATDVEKHLQGF--TQ	995
MEKklhuman	TEKGLCATKLASSEDISEFLRISVCHSSSTTTTTTTTTTEQPKHVOIKGRPHSQCLNSSPLSHSQLMFPALSTIPSSSTPSVPAGTATDVEKHLQGF--TQ	1012
MEKklrat	TEKGLCATKLASSEDISEFLRISVCHSSSTTTTTTTTTTEQPKHVOIKGRPHSQCLNSSPLSHSQLMFPALSTIPSSSTPSVPAGTATDVEKHLQGF--TQ	993
MEKklmouse	TEKGLCATKLASSEDISEFLRISVCHSSSTTTTTTTTTTEQPKHVOIKGRPHSQCLNSSPLSHSQLMFPALSTIPSSSTPSVPAGTATDVEKHLQGF--TQ	993
AF042838	FIPASPTQTKFSLQF--RNF--ENKDSKLSFVPTQSRPLPSSNIHFKPSR--FQNTSG--CCH--SKNSMTLDNS--SKCDSRGL--SNG--S--CMT--SDENVEI	1097
MEKklhuman	FIPASPTQTKFSLQF--RNF--ENKDSKLSFVPTQSRPLPSSNIHFKPSR--FQNTSG--CCH--SKNSMTLDNS--SKCDSRGL--SNG--S--CMT--SDENVEI	1114
MEKklrat	FIPASPTQTKFSLQF--RNF--ENKDSKLSFVPTQSRPLPSSNIHFKPSR--FQNTSG--CCH--SKNSMTLDNS--SKCDSRGL--SNG--S--CMT--SDENVEI	1095
MEKklmouse	FIPASPTQTKFSLQF--RNF--ENKDSKLSFVPTQSRPLPSSNIHFKPSR--FQNTSG--CCH--SKNSMTLDNS--SKCDSRGL--SNG--S--CMT--SDENVEI	1095
AF042838	FVDEKRLDMATELNSSIEDLEASVSSDITVTFKSEAVLSPEKAENDTVDKDVNHNKCKEKMEAEDEEALATAMVASASQDALPIVPOLOVENGEDI	1199
MEKklhuman	FVDEKRLDMATELNSSIEDLEASVSSDITVTFKSEAVLSPEKAENDTVDKDVNHNKCKEKMEAEDEEALATAMVASASQDALPIVPOLOVENGEDI	1216
MEKklrat	FVDEKRLDMATELNSSIEDLEASVSSDITVTFKSEAVLSPEKAENDTVDKDVNHNKCKEKMEAEDEEALATAMVASASQDALPIVPOLOVENGEDI	1197
MEKklmouse	FVDEKRLDMATELNSSIEDLEASVSSDITVTFKSEAVLSPEKAENDTVDKDVNHNKCKEKMEAEDEEALATAMVASASQDALPIVPOLOVENGEDI	1197
AF042838	IIHQDPTETPLGHTAKOPYREDTEMLKQOIGLGFSSCYQAQDVGTGTLAVKQVTVYRNTSSEQEEWEALREEIRVMSLHFNITIRLIGATCEKS	1301
MEKklhuman	IIHQDPTETPLGHTAKOPYREDTEMLKQOIGLGFSSCYQAQDVGTGTLAVKQVTVYRNTSSEQEEWEALREEIRVMSLHFNITIRLIGATCEKS	1318
MEKklrat	IIHQDPTETPLGHTAKOPYREDTEMLKQOIGLGFSSCYQAQDVGTGTLAVKQVTVYRNTSSEQEEWEALREEIRVMSLHFNITIRLIGATCEKS	1299
MEKklmouse	IIHQDPTETPLGHTAKOPYREDTEMLKQOIGLGFSSCYQAQDVGTGTLAVKQVTVYRNTSSEQEEWEALREEIRVMSLHFNITIRLIGATCEKS	1299
AF042838	NLFIE--AGGSVAHLLSKYGFATESWYNTTEQLRGLSYLHENQI--IHRDVKGANLLIDSTGQRLRIADFGAARLASKGTGAGEFGQGLGTLAFAPEN	1403
MEKklhuman	NLFIE--AGGSVAHLLSKYGFATESWYNTTEQLRGLSYLHENQI--IHRDVKGANLLIDSTGQRLRIADFGAARLASKGTGAGEFGQGLGTLAFAPEN	1420
MEKklrat	NLFIE--AGGSVAHLLSKYGFATESWYNTTEQLRGLSYLHENQI--IHRDVKGANLLIDSTGQRLRIADFGAARLASKGTGAGEFGQGLGTLAFAPEN	1401
MEKklmouse	NLFIE--AGGSVAHLLSKYGFATESWYNTTEQLRGLSYLHENQI--IHRDVKGANLLIDSTGQRLRIADFGAARLASKGTGAGEFGQGLGTLAFAPEN	1401
AF042838	LRGOYGRSCDMVSGCAITEACAKPP--NAEKHSHLALIFKIASATTAPSI--PSHLSFGLRDVALRCLELOPDRPPSRELLKH--FVFRITV	1495
MEKklhuman	LRGOYGRSCDMVSGCAITEACAKPP--NAEKHSHLALIFKIASATTAPSI--PSHLSFGLRDVALRCLELOPDRPPSRELLKH--FVFRITV	1512
MEKklrat	LRGOYGRSCDMVSGCAITEACAKPP--NAEKHSHLALIFKIASATTAPSI--PSHLSFGLRDVALRCLELOPDRPPSRELLKH--FVFRITV	1493
MEKklmouse	LRGOYGRSCDMVSGCAITEACAKPP--NAEKHSHLALIFKIASATTAPSI--PSHLSFGLRDVALRCLELOPDRPPSRELLKH--FVFRITV	1493

FIGURE 2

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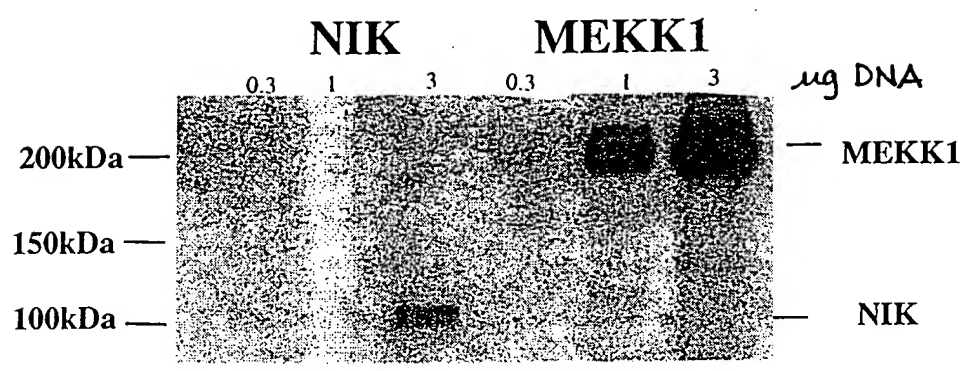


FIGURE 3

A bar graph showing CAT enzyme activity (ng/8ug WCE) for NIK and MEKK1. The y-axis ranges from 0 to 3. The x-axis shows concentrations of 0.3, 1, and 3 for both NIK and MEKK1. NIK shows a dose-dependent increase in activity, while MEKK1 shows a more modest increase.

Enzyme	Concentration	CAT enzyme activity (ng/8ug WCE)
NIK	-	~0.1
	0.3	~1.4
	1	~2.2
	3	~2.7
MEKK1	-	~0.1
	0.3	~0.55
	1	~0.55
	3	~1.15

FIGURE 4

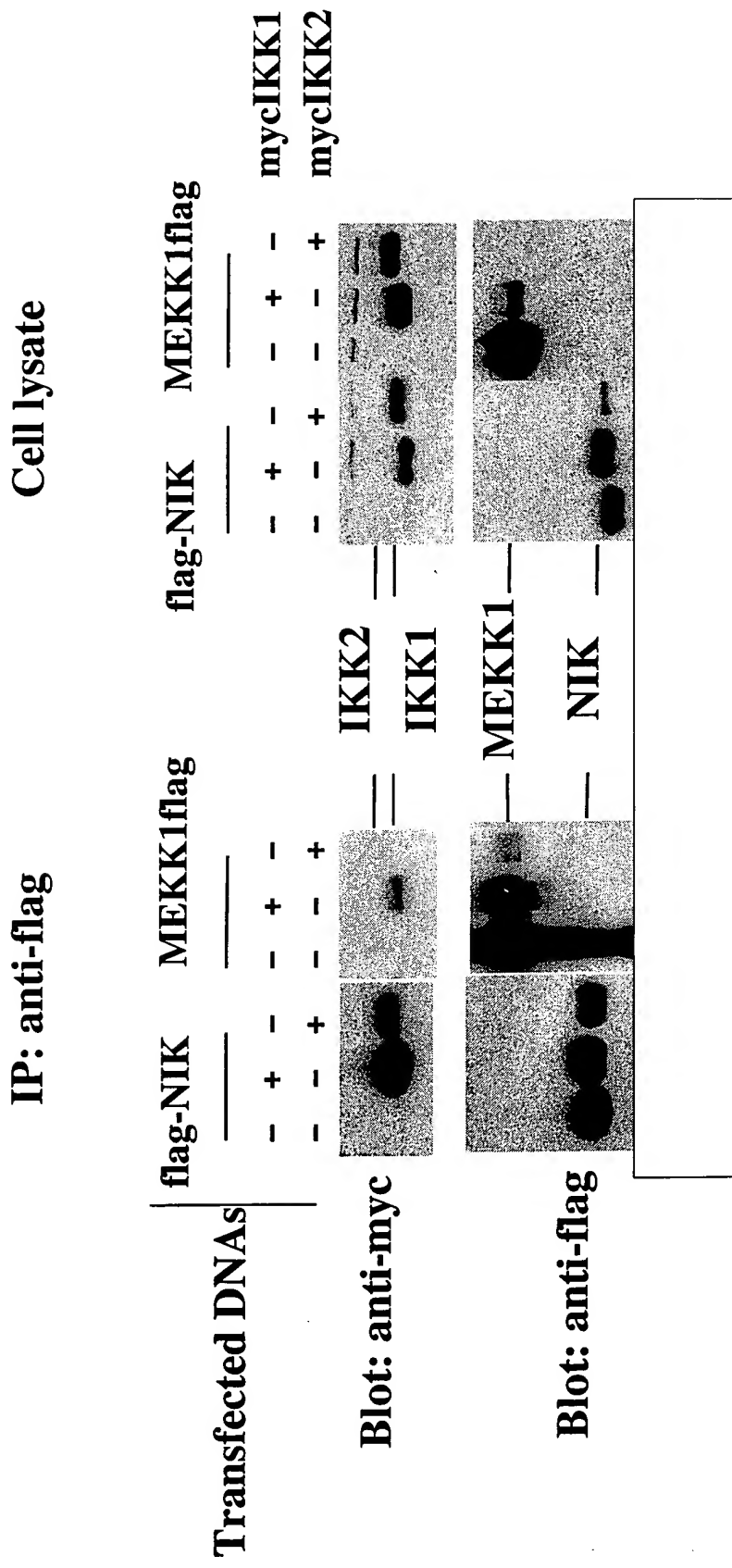


FIGURE 5